Citizens' Greener Evanston
Act Locally. Breathe Globally.

Chris and Barbara Johnson Energy Efficiency Case Study
Citizens' Greener Evanston/Elevate Energy

In November 2014, I received a call from Nancy Faunce of Citizens' Greener Evanston asking if we would be willing to host an Energy Efficiency Party at our home in Evanston/Skokie. We would invite neighbors, and Elevate Energy, a nonprofit energy conservation company, would make a presentation on the benefits of insulating and sealing our home to lower energy costs and reduce carbon emissions. If we hosted a party, we would receive a free energy audit of the energy that our house was losing.

We agreed, and in early December, we hosted the party. We wanted to do this because we know how important retrofitting homes is in reducing carbon emissions from heating and cooling homes. According to studies, there are 130 million homes in the United States, and they generate about 20 percent of the carbon dioxide that the country emits. By improving insulation and sealing air cracks, we can reduce energy use from residences by up to 40 percent. Plus, we would save money by reducing our energy costs.

On the day of the party, the contractor, who had been approved by Elevate Energy, arrived around 5:00 p.m. to do the energy audit. The process took an hour and a half. They set up a door blower to create a vacuum in the house. We then walked through the house to identify places where energy was escaping. The contractor had an infrared detector that showed where heat was escaping from the home.

Our house is a split Cape Cod built in 1955 with about 1400 square feet of living space. The second floor is eight steps up from the first floor, and the third floor is another eight steps up from the second floor. There are three attic areas, and it turned out that most of our energy loss was from these areas. The living room is below the front attic. We have three cam lights there, and when I held my hand up to the lights, I could feel cold air coming in from the attic, meaning that heat was rising into the attic and escaping through the roof.

It turned out that our house was very leaky. The blower door showed that we were leaking 4,283 cubic feet of air per minute. This was a big energy loss for a small house. Much of the energy was being lost through the attic, but there was also leakage from plumbing stacks, the chimney, electrical installations, and other installations.

After the energy audit, we proceeded with the party. Eight neighbors and friends attended. Elevate Energy did an excellent job of explaining how most homes lose energy through poor construction and insulation, and they used illustrations to show how air escapes from a leaky house. They explained that if people wanted an energy audit, it would cost $99. If they

agreed to host a party with at least five people attending, then there would be no cost for the audit.

A few days later, I received a cost estimate from the approved contractor. It specified that they would seal the plumbing stacks, chimney, electrical installations, and other installations. They would also insulate all attic hatches and weather strip around the hatches. The total cost would be $2,660, but rebates from Nicor would reduce the cost by $660, lowering our out-of-pocket cost to $2,030.

A week later, the crew came to do the sealing and insulation. It took most of the day. We identified how much of each attic we needed for storage. They placed insulation in the remainder of each attic and boarded off each insulated section in a very neat and professional way. The final result looked very good.

At the end of the day, the contractor conducted another door blower test, and now we were losing only 2,683 cubic feet of air per minute. This was a reduction in air leakage of almost 38 percent.

The work was done in January 2015, so we have not been able to track savings in energy costs. The preliminary signs for energy cost savings, though, are very promising. When I hold my hand up to the cam lights in the living room, I no longer feel cold air, which means that we are no longer losing heat through the installations. The attics are colder, which means that less heat is escaping from the living area. And the snow on our roof stays there longer than on our neighbors' roofs. In other words, we're losing significantly less heat through our roof.

We thought that Elevate Energy and the contractor did an excellent job, and Citizens' Greener Evanston was very supporting in helping us set up the Energy Efficiency Party.